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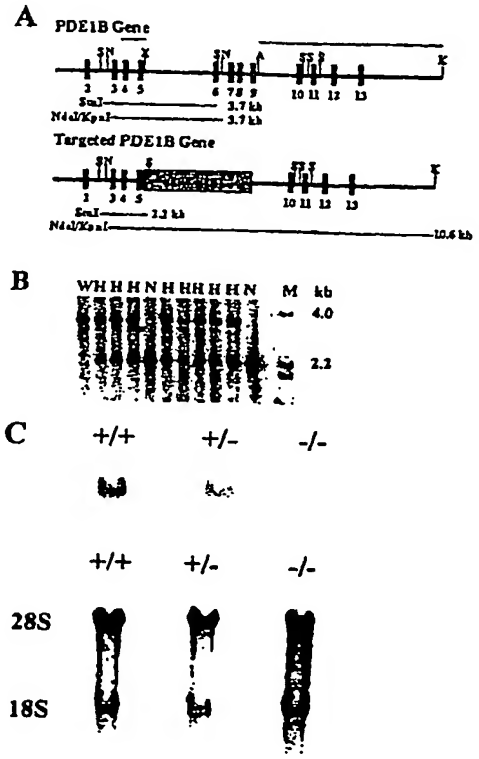
(54) Title: PHOSPHODIESTERASE ACTIVITY AND REGULATION OF PHOSPHODIESTERASE 1-B-MEDIATED SIGNALING IN BRAIN



(57) Abstract: The present invention provides methods and compositions for modulating the activity of phosphodiesterase 1 B (PDE1B) in intracellular signaling pathways, including but not limited to, dopamine D1 intracellular signaling pathways. The invention also provides methods and compositions for modulating the activities of intracellular signaling molecules, including, but not limited to, DARPP-32 and GluR1 AMPA receptor, via modulation of PDE1B. The invention also provides pharmaceutical compositions and methods of screening for compounds that modulate PDE1B activity. The invention also provides methods of treating or ameliorating the symptoms of a disorder, including but not limited to a PDE1B-related disorder or a dopamine D1 receptor intracellular signaling pathway disorder, by administering a modulator of PDE1B, preferably, but not limited to, an inhibitor of PDE1B or an agent that decreases the production of PDE1B.

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